

*The Gibbons of Northern Thailand, By H. J. Coolidge Jr.*

There are excellent and irrefutable reasons, claims the author, for placing man within the range of primate variations, represented by the primate tree, having 600 living terminal twigs, that spread from 57 branches, only one of these being designated as *genus homo*. All the living primate species: lemurs, tarsiers, monkeys, apes and man, according to Coolidge, are the result of Nature's experiments with one common ancestor during the past 60 million years or more (see *Harvard Alumni Bull.* May, 1938).

The findings of comparative anatomical, palaeontological, embryological, physiological (and serological!) studies show that the fundamental similarities between man and the higher primates far outweigh the dissimilarities. These findings, used in conjunction with the fossil records—however meagre—of the evolution of primates suggest the following succession of groups, represented by the following living examples:

- 1 : Primate-like insectivores, such as the little tree shrew in Southern Asia, including Thailand.
- 2 : Lemurs, predominating in Madagascar, the slow loris of Malaya, the galagos of Africa.
- 3 : The spectral tarsier of the East Indies.
- 4 : The Old World monkeys, macaques and lamurs.
- 5 : The Anthropoid apes, orang and gibbon of Asia.
- 6 : Man.

Thus the gibbon, from research on primates, occupies a key position and, assuming that man arose from a gibboid stock, more, yes intimate knowledge of this ape should serve well in the interpretation of the physical anthropology of primates, including man; it should even assist in the study of man's social evolution and cultural anthropology. To obtain such detailed information the author organized the Asiatic Primate Expedition; its objectives were accomplished with a success that admittedly exceeded the expectations of the study group, visiting both Thailand and Borneo. The objectives, aside of collecting birds and mammals, which records have been separately published and reviewed, and which included also the study of orangs in Borneo, were twofold :

1: Behavior Study of wild gibbons in their undisturbed natural environment. This work was mainly carried on by C. R. Carpenter, research assoc. of the Harvard Peabody Musem, who after various trials found an ideal spot for observation near the cave temple at the foot—and in the hills of Doi Chiang Dao, a mountain sacred to the Thai Buddhists—and thus safe for animal life from destruction by local hunters.

The gibbons populate in groups the forests of South Eastern Asia, from Thailand, Indo-China and Burma down through Malaya and Dutch East Indies. Anywhere from sea—level up to 7000 feet altitude the cheery gibbons "are happily at home" and their name "Hylobates" or "Treewalker" aptly implies their tendency to move on 2 legs more than any other anthropoid. The proportionate length of the legs, the posture, the upright gait of this 3 foot ape are most nearly like our own. By his long arms the gibbon swings, as an accomplished acrobat, from branch to branch,—if need be across 40 feet clearings, using only the fingers to touch the branches.

The brain, though of course, more primitive in the gibbon, has the general human pattern. Usually not surviving in complete captivity in foreign lands, one specimen lived at least for 28 years in the Philadelphia Zoo. The life span and period of gestation are probably like those of orang, which were reviewed in some detail by this writer in vol. XII of the *Natural History Supplement* of the Thailand Research Society.

The food consists of fruits, wild figs, succulent grapes,—probably wild bananas—and others collected for identification, of the pith of the palm tree, young sprouts, certain leaves, flowers, and parts of the "Bamboo," favored food tree of the gibbons, of birds eggs and, occasionally, young birds. While the supply of water in their food is usually ample, the gibbon in addition wets the fur on the back of his hand and uses this as a drinking sponge.

The gibbon sleeps sitting in the crotch of a tree, often his back against the trunk, with knees clasped. As individual animals, they are highly nervous, always on the watch for some unnatural disturbance. They are strictly arboreal, and "superbly" adapted to the semi-deciduous and evergreen tropical forests, and seldom come down to the ground. Concerning their social behavior, each group lives in

its own territory; the ripening of fruit determines the movements, the amount and availability of food as well as the pressure of other gibbon groups influence the extent to which a territory is occupied by the members of a family. These territories may overlap in overpopulated regions, and vocal—as well as actual—fighting might ensue between families in search for the same fruit tree. Aside from disease, tree-climbing cats, pythons, and eagles are probably the natural enemies. Gibbons live apparently only in monogamous family groups, typically consisting of parents with 1–4 children with ages from new-born to sub-adults, 7–8 years old. In the cooperative family-life the extended playlife between brothers and sisters is not unlike that of our own children. The very young are carried and nursed for at least 8–10 months by their affectionate and considerate mother.

These social studies of the wild gibbon were made possible by continued observation, often from blinds or hide outs, through field-glasses, and were supplemented by films of families feeding, playing and travelling their aerial highways—from branch to branch; also sound recordings of their calls were made—with the help of a 6 foot parabolic reflector. Thus not only their gestures, with which they communicate with one another, but also their language of joy, especially at sunrise, and exceeding in range that of any other primate in the New or Old World, was recorded. There seem to be 5 basic types of vocalization and combinations varying in pitch from a chuckle to a bird-like crescendo. Particularly gratifying was the responding call of gibbons to the recorded sound. Several complete families were collected for the study of classification of age and heredity resemblances of the young. The majority of those, closely observed in the Thailand Behavior Research Camp, could happily be transported to a little island of Porto Rico, where they furnish the nucleus of a free-ranging colony in the New World for further scientific observation.

2: Collection of skins, skeletons, parasites and selected anatomical material, including embryos of important primate types, especially of the gibbon in Thailand (of the orang utang and other animals in Borneo). Each specimen collected was documented, including detail measurements for growth and variation studies, in correlation with skeletal measurements, undertaken by Dr. A. Schultz, a member

of the Expedition and Professor in the Johns Hopkins University. From the study of the coat characters, showing both black and light phases, should be gained a knowledge of the possible color varieties in a localized area, and of the actual race studied. The series, including complete skeletons, showed some of the characters attributed by Kloss to typical *Hylobages Lar lar*, and some to *Hylobates lar emtelloides*. Tentatively the name *Hylobates Lar* (*Linnaeus*) subspecies has been given to the specimens collected by the expedition at Mt. Angka and Mt. Chiang Dao. Reproductive organs and embryos are now studied by members of the Harvard Medical School and the stomach contents are subjected to examination, as well, for identification of the gibbon's favorite foods.

Coolidge concluded his report with the statement that the gibbon may well become the one wild primate, about which we will have the most information—as a result of the expedition.